

SUMMARY

Goal: To develop novel mathematical and computational methods and apply them to real problems.

Background: Broad experience in mathematics and mechanical engineering.

Concentration: Numerical analysis and computational modeling.

EDUCATION

- ◇ **PhD, Georgia Tech**, December, 2003
Mathematics. Advisor: Luca Dieci. GPA: 3.88/4.0
Dissertation: *Numerical Methods for the Continuation of Invariant Tori*
- ◇ **MSE, University of Alabama in Huntsville**, May, 1999
Mechanical Engineering, minor in Mathematics. GPA: 4.0/4.0
Thesis: *An Intrinsic, Heterogeneous Model of Solid Propellant Combustion*
- ◇ **BSE, University of Alabama in Huntsville**, May, 1997
Mechanical Engineering, minor in Mathematics. GPA: 3.74/4.0
summa cum laude

EMPLOYMENT

- ◇ (Mar 2006 – present) **Postdoc**, Los Alamos National Lab
 - Mathematical image and data analysis
 - Algorithm design.
 - General research.
- ◇ (Dec 2003 – Mar 2006) **Systems Analyst**, Dynetics, Inc.
 - Mission planning and trajectory design.
 - Analysis of foreign and domestic telemetry data.
- ◇ (Aug 1999 – Dec 2003) **Research/Teaching**, Georgia Tech Mathematics
 - NSF-supported PhD research in numerical dynamical systems.
 - Teaching of mathematics.
- ◇ (May 1999 – Aug 1999) **Internship**, Sandia National Labs, Livermore, CA
 - Computational materials science. Research in FCC crystal deformation.
 - Computational modeling of O-ring aging.
- ◇ (Nov 1996 – May 1999) **Research/Teaching**, Propulsion Res. Ctr. at UAH
 - ONR-supported MS research in solid propellant combustion instability.
 - Taught graduate-level course in numerical solution of PDEs.
- ◇ (Jan 1993 – Jan 1996) **Co-op**, NASA Marshall Space Flight Center
 - Ground software design and testing, multiple languages and platforms.
 - Six terms: four quarters, two semesters.

Bryan Rasmussen

QUALIFICATIONS & EXPERIENCE

- ◇ Construction of metrics and measures of images for various applications.
- ◇ Construction of algorithms for general image and shape analysis.
- ◇ Foreign telemetry analysis and foreign missile characterization.
- ◇ Computational modeling of missile aerodynamics and control systems.
- ◇ PhD research in numerical dynamical systems at Georgia Tech.
- ◇ Development of algorithms to improve mission planning software and optimize trajectories.
- ◇ Active Q clearance.
- ◇ Extensive computational experience, including some software design and systems administration—various programming languages, operating systems, applications, and research areas:
 - Proficient in **Matlab**. Significant exposure to **Mathematica**, **Mathcad**, **Maple**, and other scientific computing applications.
 - Proficient in ANSI C, Unix shell scripting, **L^AT_EX**.
 - Some exposure to C++, perl, FORTRAN 77/90.
 - Proficient in most modern operating systems.
 - Some experience with systems administration, Unix, Mac, Win.
- ◇ Various technical tasks at Dynetics. Examples include target recognition algorithms for radar signatures and processing of test telemetry data.
- ◇ Practical finite-element analysis of crystal plasticity and O-ring aging at Sandia, Livermore.
- ◇ Theoretical and experimental analysis of solid rocket combustion, including a three-month stay in Palaiseau, France at ONERA and MS research at UAH.
- ◇ Development and testing of ground software for NASA Marshall Space Flight Center as co-op student.
- ◇ Taught undergraduate mathematics (calculus, differential equations, linear algebra) at Georgia Tech, 1999-2002.
- ◇ Taught graduate engineering course in numerical solution of PDE at UAH in Spring, 1999.
- ◇ Taught internal class in general and numerical linear algebra at Dynetics, Fall 2004.
- ◇ **Scholarships:** Von Braun Memorial, 1995; UAH Presidential (formerly “Honors Scholarship”), 1991.
- ◇ **Honors Societies:** Tau Beta Pi (Engineering, 1995); Pi Tau Sigma (Mechanical Engineering, 1995); Phi Kappa Phi (General, 1999).